DETAILED ACTION

This office action is in response to the reply filed 1/8/2010 wherein claim 1 has been amended and claims 2-5 and 9-24 cancelled.

Currently claims 1 and 6-8 are pending examination.

Response to Arguments

1. Applicant's arguments, with respect to the rejection(s) of claim(s) 1 and 6-8 under Fischell, Hossainy, Eury and Shull have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claim amendment.

New Rejection

Claim Rejections - 35 USC § 112

1. Claims 1 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "a chemically incompatible polymer..." It is unclear what this polymer is "chemically incompatible" with.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz et al (US 2002/0133183, pub. date: 9/19/2002), Eury (US 2002/0004679), Fischell et al (US 2003/0065382) and Shull (WO 96/34003). **Rejection is necessitated by claim amendment.**

Lentz teaches an implantable medical device that can be coated to minimize or substantially eliminate a biological organism's reaction to the introduction of the medical device to the organism. Therapeutic drugs may be mixed with the biocompatible materials and affixed at least to a portion of the medical device.

Regarding claim 1: The medical device can comprise a biocompatible vehicle, which comprises a polymeric matrix. The polymeric matrix can comprise a first and a second layer. The first layer comprises a therapeutic agent. The first layer can comprise a perfluoro copolymer comprising 55 to about 65% of polymerized residue of the vinylidenefluoride (VDF) copolymerized with from about 45 to about 35wt % of the polymerized residue of hexafluoropropylene (HFP) (claims 3, 5, 6, 10, 12 and [0084]). Fig. 6 demonstrates the release kinetics of rapamycin from poly (VDF/HFP). Additionally a top coating can be applied to delay the release of the pharmaceutical agent [0085]. For example the outer layer can comprise only polybutylmethacrylate, which acts as a diffusion barrier to prevent the rapamycin from eluting too quickly [0069]. Rapamycin is incorporated into the base layer [0069]. Example 3 demonstrates a stent having a coating.

Regarding claims 6-8: The coating and drugs may be utilized and combined with medical devices such as stents and stent-grafts. Other medical devices include vena cava filters and anastomosis devices [0130].

Lentz fails to teach the medical device to comprise topotecan in combination with rapamycin in the basecoat in the concentrations recited by instant claim 1.

Fischell teaches a stent that is coated with a composition comprising a polymer and one or more anti-restenosis drugs (basecoat matrix) selected from the group consisting of a finite amount of particular drugs including topoisomerase I inhibitors including adriamycin etoposide, irinotecan and hycamptin (topotecan) as well as rapamycin (abstract; paragraphs [0020] and [0022]). Furthermore the stent is coated with a plastic material selected from parylene, silicone rubber, polyurethane, polyethylene, nylon and PTFE (polytetrafluoroethylene), a fluoro polymer, wherein the anti-restenosis drug is diffused into the plastic coating (claims 2-3 and 7-8).

Eury teaches the use of topoisomerase inhibitors for the prevention of restenosis. The method includes administering a topoisomerase inhibitor on a stent for local administration (Abstract). The topoisomerase inhibitor is selected from camptothecin, irinotecan and topotecan. In one embodiment the polymer stent is loaded with camptothecin, irinotecan or topotecan (Pg 1 [0015]). A second active agent can be co-administered with the topoisomerase inhibitor, such as Paclitaxel (Pg 1 [0017]), well known to those of ordinary skill in the art to aid in the prevention of restenosis (Pg 2 [0022]).

One of ordinary skill in the art would have been motivated to combine rapamycin and topotecan because as suggested by Fischell because they are all art-recognized equivalents used for the same purpose. All references teach coating an implantable medical device with a composition comprising anti-restenosis drugs, thus one skilled in the art would readily look to Lentz/Fischell for other anti-restenosis drugs or combinations of anti-restenosis drugs as substitutions to achieve the predictable result

of generating a medical device with the desired anti-restenosis drugs. A practitioner would have reasonably expected a medical device coated with a sustained release coating comprising a combination of anti-restenosis drugs such as a topoisomerase I inhibitor, specifically topotecan, camptothecin or irinotecan as taught by Eury, and a rapamycin to be successful, absent evidence to the contrary..

Lentz/Fischell/Eury fail to teach the specific concentration of topotecan recited.

Shull teaches chemotherapeutic agents, such as camptothecin, being delivered in vivo to fight cancer growth in the body. For in vivo cell inhibition assays, camptothecin was found to have the following 50% cell growth inhibition concentration (Table 4) ranging from 5.74 nm to about 3223.7nm depending on the cell line.

It would have been prima facie obvious to one of skill in the art at the time the invention was made utilize topotecan in the concentrations taught by Shull dependent on the desired results. One of ordinary skill in the art would have been motivated to do so because topotecan and camptothecin are art-recognized equivalents, both topoisomerase I inhibitors, useful on polymeric stents for the treatment of restenosis, furthermore it would have been obvious to vary the concentration of topotecan used depending on the cell line looking to inhibit as Shull teaches that different cell lines require different concentration to achieve 50% inhibition.

Conclusion

No claims are allowable.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Berríos whose telephone number is (571)270-7679. The examiner can normally be reached on Monday-Thursday: 7:00am-4:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 270-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Berríos/
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